Use Attainability Analysis

for

WBID 0382 Rollins Creek

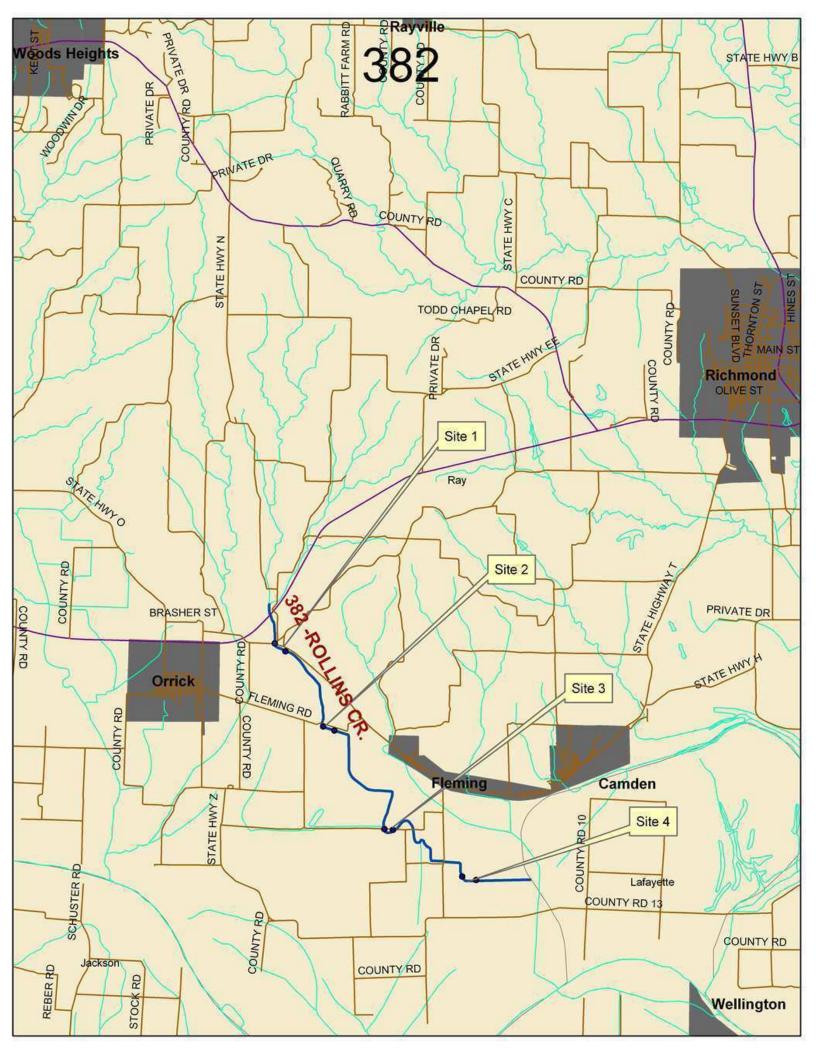
Submitted by SES Inc.

to Missouri Department of Natural Resources Water Protection Program

Date received: November 14, 2007

## Data Sheet A - Water Body Identification

I. Water Body Information (For water body being	g surveyed)
Water Body Name (from USGS 7.5' quad):	Rollins Cr.
Missouri Water Body Identification (WBID) Number:	382
8 digit HUC code: 10300101	County: Ray
Upstream Legal Description (from Table H):	T51N R29W SEC 13
Downstream Legal Description (from Table H):	T50N R28W SEC 3
Number of sites evaluated: 4	
List all site numbers, listed consequently upstream to do 1, 2, 3, 4	ownstream:
Site Locations Map(s): Attach a map of the entire segn Mark any other items that may be of interest.  II. Facility Information (list all permitted discharges to	
Facility Name(s) and Permit Number(s):	, ,
countryside meadows WWTF	
MO0119822	
III. UAA Surveyor (please print legibly)  Name of Surveyor: Gilisa Gould	Telephone Number: 9133070054
Organization/Employer: SES, Inc.	
Please verify that you have completed all sections, complete.	
Signed:Gilisa Gould	Date:10.22.07



#### **Data Sheet B-Site Characterization**

Date & Time:	10.16.0	7 10:50am		Site Location	on Descrip	tion (e.g. road	crossing):		
Personnel:	G. Gou	ld and L. Brown			Hwy T crossing				
Current Weatl	her Cond	ditions: Rain		Facility Nar	ne:	Countryside I	Meadows WWTF		
Weather cond	litions fo	r the past 10 days:3	.09 inches	Permit Nun	nber:	mo0119822			
Drought condi	itions?: N	No drought ☑ ; Pha	se I □ ; Phase	II □ ; Phas	e III □ ; Pł	nase IV □ ; Ur	nknown □		
-		<del>-</del>							
Site Location									
		(Universal Transver	se Mercator P	rojection, In	Meters				
Site 01	Easting	ı (UTM X):	Northing (UTI	И Y):		Horizontal Ac	ccuracy:	Meters	
		0405081		4341906				4.26	
Site 11	Easting	ı (UTM X):	Northing (UTI	M Y):		Horizontal Ac	curacy:	Meters	
	-	0405312	, , , , , , , , , , , , , , , , , , ,	4341726			<u>,                                      </u>	7.32	
		0400012	1	4041120				1.32	
Photos:							•		
Photo ID#	F	Photo Purpose	Photo ID#:	D#: Photo Purpos		Photo ID#:	Photo Pur	pose	
1		downstream	2	upstream		119	downsteam		
Photo ID#	F	Photo Purpose	Photo ID#	Photo F	Purpose	Photo ID#	Photo Pur	pose	
120	upstrea	ım							
Photo ID#	F	Photo Purpose	Photo ID#	Photo F	Purpose	Photo ID#	Photo Pur	pose	
Uses Observ	ed:								
☐ Swimming	]	☐ Skin diving	□ SCUBA d	iving	☐ Tubing	g	☐ Water Skiing		
☐ Wind surfi	ng	☐ Kayaking	☐ Boating	-	□ Wadir	ng	□ Rafting		
☐ Hunting		☐ Trapping	☐ Fishing		☑ None	of the above	☐ Other:		
Describe:		11 5							

WBID#	382
Site #	1

## **Data Sheet B- Site Characterization (Continued)**

Surrounding Condition	ons:					
☐ City/County parks	☐ playgrounds	☐ MDC cons	servation lands	☐ Urban areas	□ Rural Re	esidential
☐ Campgrounds	☐ State parks	□ National F	orests	☐ Nature trails	☐ Stairs/w	alkways
☐ Boating accesses	☐ Fence	☐ No tresspa	ass sign	☐ Steep Slopes	s ☐ Other:	
Comments:						
none						
Evidence of Human l	Jse:					
□ Roads	☐ Foot path/prints	☐ Dock/platfo	orm	☐ Camping Site	es □ Rope sw	vings
☐ RV/ATV Tracks	☐ Fire pit/ring	☐ NPDES Dis		☐ Fishing Tack		
comments/other:						
none						
Substrate:						
% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock	
50	25	25	70 Oiit	/o wida, Olay	/0 Dog. co	
Aquatic Vegatation:						
none						
Water Characteristics	s:					
Odor:	☐ Sewage	☐ Musky	☐ Chem	nical	✓ None	☐ Other:
Color:	☑ Clear	□Green	☐ Gray		☐ Milky	☑ Other:
			<u> </u>			brown
Bottom Deposit: Surface Deposit:	☐ Sludge	☐ Solids ☐ Scum	☐ Fine s	sediments	☑ None ☑None	□ Other:

WBID#_	382	
Site #	1	

#### **Data Sheet B - Site Characterization (continued)**

Channel Feature	Distance from	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
	access location (m)				
			1		
omments: (Please re	cord any additional comments h	nere.)			
ne					
ease verify that yo	ou have completed all se	ections, checke	d all applicable	boxes, and that the f	orm is
omplete.	-		- <del>-</del>		
-					
ırveyor's Signature	: Gilisa Gould		Date of Survey:	10/16/2007	
			-		
0	SES Inc		Б :::	Field Team Leader	

# Field Data Sheets for Recreational Use Stream Surveys Data Sheet C - Field Survey Results

																		Disso	lved Ox	ygen		
	Waterbo	ody ID:	382		•	Site #:	1									Date:	10.16.07	1		Time:	10:50am	
	Estimate	ed Chann	nel Incisi	on:	5.0	(m) (hei	ght betw	veen low	bank wid	dth and w	vater)					,		Oxygen:		•		
	GPS Lo	cation - I	Easting (	UTM X)	, Northir	ng (UTM	Y), Hor	izontal A	ccuracy	Estimate	e (EPE / 1	PDOP / F	OM)			וט	ssorvea	Oxygen:	10		(mg/L)	
		UTM X		0405081			UTM Y:		434190			+/-		(meters)		Di	ssolved (	Oxygen:			(% sat)	
	11	UTM X	<u> </u>	0405312	2	-	UTM Y:		4341720	5	•	+/-	5.5	(meters)			c .c				( 0/ )	
	Average	Stream	Width:		4			(meters)	L	ength of	Survey S	Segment:	150		(meters)		Specifi	c Cond:			(μS/cm)	
		rmne Le						(meters)		20x avera	•	-	100		(meters)	Wa	ter Temp	erature:	13.6		(°C)	
	Fiel	d Staff:	Larissa	Brown ar	and	Gilisa G	iould															
										Trai	nsect C	ross-Sec	tion									
	0	1	0	2	0	)3	0	)4	0	)5	0	6	0	7	0	8	0	9	10	0	11	1
Station	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.3	0.05	0.5	0.25	0.4	0.01	0.4	0.01	0.5	0.01	0.6	0.05	0.2	0.01	0.5	0.01	0.6	0.05	0.5	0.10	0.2	0.01
2	0.6	0.05	1.0		0.8		0.8		1.0				0.4	0.00	1.0	0.01	1.2	0.25	1.0	0.40	0.4	0.05
3	0.9	0.10	1.5	0.65	1.2		1.2		1.5				0.6	0.00	1.5	0.05	1.8	0.40	1.5	0.45	0.6	0.05
4	1.2	0.05	2.0	0.55	1.6		1.6						0.8	0.01	2.0	0.05	2.4	0.40	2.0	0.40	0.8	0.05
5	1.5	0.10					2.0						1.0		2.5	0.10	3.0		2.5	0.40		0.10
6	1.8	0.05	3.0	0.40	2.4	0.20	2.4	0.15	3.0	0.10	3.6	0.05	1.2	0.10	3.0	0.10	3.6	0.40	3.0	0.30	1.2	0.05
7	2.1	0.05							3.5				1.4	0.10	3.5	0.10		0.35	3.5	0.25	1.4	0.05
8	2.4	0.00	4.0	0.25	3.2	0.05	3.2		4.0	0.10			1.6	0.05	4.0	0.10	4.8	0.20	4.0	0.25	1.6	0.05
9	2.7	0.01	4.5				3.6		4.5				1.8	0.01	4.5	0.05	5.4	0.15	4.5	0.05	1.8	0.01
Right Bank	3.0	0.00	5.0	0.00	4.0	0.00	4.0	0.00	5.0	0.00	6.0	0.00	2.0	0.00	5.0	0.00	6.0	0.00	5.0	0.00	2.0	0.00
Feature Type						•		•		•			J									
riffle, run, or pool	rif	fle	po	ool	po	ool	po	ool	ро	ool	po	ool	rif	fle	po	ol	po	ol	po	ol	riff	le

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

ligned:	Gilisa Gould	Date:	10/22/07

WBID#	382
Site #	2

#### **Data Sheet B-Site Characterization**

				<del> </del>				
Date & Time:		10.19.07	12:50pm	Site Location	on Descrip	tion (e.g. road	crossing):	
Personnel:		L. Brown and G. G	iould		Fleming R	Rd crossing		
Current Weatl	her Cond	ditions: clear		Facility Nar	Facility Name: Countryside Meadow			:
Weather cond	litions fo	r the past 10 days:	3.19 inches	Permit Nun	nber:	MO0119822		
Drought cond	itions?: N	No drought ☑ ; Pha	ıse I □ ; Phase	։ II □ ; Phas	e III □ ; Pł	nase IV □ ; Ur	nknown 🗆	
Site Location								
Location Coor	dinates	(Universal Transve	rse Mercator P	rojection, In	Meters			
Site 01	Easting	ı (UTM X):	Northing (UTI	M Y):		Horizontal Ac	ccuracy:	Meters
	040614	4	4340068					3.4
Site 11	Easting	ı (UTM X):	Northing (UTI	M Y):		Horizontal Ac	ccuracy:	Meters
	040639	 )2	4339984		_			4.9
_			_1					
Photos:	T		ī	1		<u> </u>	1	
Photo ID#	F	Photo Purpose	Photo ID#:	Photo F	Purpose	Photo ID#:	Photo Pu	rpose
121	downst	ream, T1	122	upstream,	T1	123	downstream, T	1
	_	_						
Photo ID#	F	Photo Purpose	Photo ID#	Photo F	Purpose	Photo ID#	Photo Pu	rpose
124	upstrea	am, T11						
Photo ID#		Photo Purpose	Photo ID#	Photo F	Purpose	Photo ID# Photo		rnosa
I HOLO IDTI	<del>                                     </del>	noto i dipose	I HOLO IDII	THOLET	urpose	T HOLO IDII	Photo Pu	розе
			_1	1	_			
Uses Observ			T <sub>E</sub> coup.		T		I - w + o ::	
Swimming		☐ Skin diving	☐ SCUBA d	iving	☐ Tubing	-	☐ Water Skiin	3
☐ Wind surfi	ng	☐ Kayaking	☐ Boating		☐ Wadin	ng	☐ Rafting	
☐ Hunting		☐ Trapping	☐ Fishing		☑ None of the above		☐ Other:	
Describe:								

WBID#	382
Site #	2

## **Data Sheet B- Site Characterization (Continued)**

Surrounding Condit	ions:				
☐ City/County parks	☐ playgrounds	☐ MDC conservation	on lands 🔲 Urbai	n areas □ Ru	ıral Residential
☐ Campgrounds	☐ State parks	□ National Forests	□ Nature	e trails ☐ Sta	airs/walkways
☐ Boating accesses	☐ Fence	☐ No tresspass sig	gn □ Steep	Slopes ☑ Ot	ther:
Comments:					
Near railro	oad				
Evidence of Human	llse.				
□ Roads	☐ Foot path/prints	☐ Dock/platform	☐ Camr	oing Sites □ Ro	ppe swings
☐ RV/ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharg			estock watering
comments/other:	none	<u></u>	1	9	001001111111111111111111111111111111111
Substrate:					
% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
20	20	40	20	/0 Ivida, Olay	/0 DOG! 00
Aquatic Vegatation:					
	None				
Water Characteristic					
		☐ Musky	☐ Chemical	✓ None	☐ Other:
Odor: Color:	□ Sewage □ Clear	□ Musky □Green	☐ Gray		☐ Other:
Color.	Li Cicai	Понен	<u> </u>		Brown
Bottom Deposit:	□ Sludge	☐ Solids	☐ Fine sediments	s ☑ None	☐ Other:
	i i Siudde	1 1 301105		`  Y   WOITE	i i Omer.

WBID # 382 Site # 2

Organization: SES, Inc.

#### Field Data Sheets for Recreational Use Stream Surveys

## **Data Sheet B - Site Characterization (continued)**

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)
---

	Distance from	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
	access location (m)				
	1.00				
	cord any additional comments l	here.)			
ne					
ease verify that yo	ou have completed all s	ections, checke	ed all applicable	boxes, and that the	form is
	ou have completed all s	ections, checke	ed all applicable	boxes, and that the	form is
ease verify that yo	ou have completed all s	ections, checke	ed all applicable	boxes, and that the	form is
	u have completed all s	ections, checke	ed all applicable	boxes, and that the	form is
		ections, checke	ed all applicable  Date of Survey:		form is

Position: Field Team Leader

# Field Data Sheets for Recreational Use Stream Surveys Data Sheet C - Field Survey Results

Time: 12:50pm  //gen: 8.1 (mg/L)  //gen: (% sat)  //fond: (μS/cm)  //ture: 15.7 (°C)
(% sat)   (% sat)   (mS/cm)   (mS
(% sat)   (% sat)   (mS/cm)   (mS
fond:(μS/cm)  sture:(°C)  10
10 11 Distance Distance
10 11 Distance Distance
Distance Distance
Distance Distance
Distance Distance
oth (m) (m) Depth (m) (m) Depth (m
0 0 0 0
0.10 0.6 0.25 0.5 0.20
0.15 1.2 0.20 1.0 0.4
0.15 1.8 0.15 1.5 0.60
0.15 2.4 0.30 2.0 0.5
0.10 3.0 0.35 2.5 0.50
0.05 3.6 0.30 3.0 0.50
0.10 4.2 0.20 3.5 0.33
0.10 4.8 0.10 4.0 0.33
0.05 5.4 0.15 4.5 0.13
.00 6.0 0.00 5.0 0.00
0

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 11.09.07
-------------------------------------

WBID#	382
Site #	3

#### **Data Sheet B-Site Characterization**

Date & Time:		10.19.07	2:00pm	Site Location Description (e.g. road crossing):						
Personnel:		L. Brown and G. G	ould		52nd street crosing					
Current Weat	her Cond	ditions: clear		Facility Nar	me:	Countryside I	Meadows WWTF			
Weather cond	litions fo	r the past 10 days:3	3.19 inches	Permit Nun	nber:	MO0119822				
Drought cond	itions?: N	No drought ☑ ; Pha	se I □ ; Phase	· II □ ; Phas	e III □ ; PI	nase IV □ ; Ur	nknown 🗆			
Site Location	1.									
		(Universal Transver	se Mercator Pi	rojection, In	Meters					
Site 01	Easting	ı (UTM X):	Northing (UTN	И Y):		Horizontal Ac	curacy: Meter			
	040749	93	4337808				4.6			
Site 11	Easting	ı (UTM X):	Northing (UTN	M Y):		Horizontal Ac	curacy: Meter			
		,	4337792	,		•				
0407683 4337792 2.1										
Photos:				•						
Photo ID#	F	Photo Purpose	Photo ID#:	Photo F	Purpose	Photo ID#:	Photo Purpose			
125	downst	ream, T1	126	upstream,	T1	127	downstream, T1			
Photo ID#	P	Photo Purpose	Photo ID#	Photo F	Purpose	Photo ID#	Photo Purpose			
128	upstrea	nm, T1								
Photo ID#	Р	Photo Purpose	Photo ID#	Photo F	Purpose Photo ID#		Photo Purpose			
Uses Observ	ed:									
☐ Swimming	1	☐ Skin diving	□ SCUBA di	iving	☐ Tubin	a	☐ Water Skiing			
☐ Wind surfi	ng	☐ Kayaking	☐ Boating		□ Wadir		☐ Rafting			
☐ Hunting		☐ Trapping	☐ Fishing		✓ None	of the above	☐ Other:			
Describe:		ш парріпу			⊡ None	or the above	Durier.			

WBID#	382
Site #	3

## **Data Sheet B- Site Characterization (Continued)**

Caunding Canditi	!					
Surrounding Conditi ☐ City/County parks	ions: ☐ playgrounds	☐ MDC conservation	tion lands	☐ Urban areas	☐ Rural Re	cidential
☐ Campgrounds	☐ State parks	☐ National Forest		☐ Nature trails	☐ Stairs/wa	
	☐ State parks				☐ Stairs/wa	likways
☐ Boating accesses	☐ Fence	☐ No tresspass s	<u>,gn</u>	☐ Steep Slopes	IM Other.	
Comments:						
crop field						
Evidence of Human						
☐ Roads	☐ Foot path/prints	☐ Dock/platform		□ Camping Sites		
☐ RV/ATV Tracks	☐ Fire pit/ring	☐ NPDES Dischar	rge	☐ Fishing Tackle		« watering
comments/other:	none					
Substrate:						
% Cobble	% Gravel	% Sand	% Silt	% Mud	•	6 Bedrock
			40	60	0	
Atie Vegetation						
Aquatic Vegatation:						
	None					
	None					
Water Characteristic	c·					
Water Characteristic		□ Muskv	□ Chemi	cal 🗸	None [	□ Other:
Odor:	☐ Sewage	□ Musky	□ Chemi		Í None 🛭 🛭 I Milkv 🗘 🖺	□ Other:
		□ Musky □Green □ Solids	☐ Gray		í Milky 🏻 🖺	

WBID # 382 Site # 3

#### Field Data Sheets for Recreational Use Stream Surveys

## **Data Sheet B - Site Characterization (continued)**

Additional Stream Mo	rphology:	(Record isolated pools or	other features identified during	g the survey that may	support recreational uses)

	Distance from	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
	access location (m)				
	<u> </u>		1	<u> </u>	
amamanta- (D)	l tre t				
	cord any additional comments I	nere.)			
ne					
ease verify that yo	ou have completed all s	ections, checke	ed all applicable	boxes, and that the f	form is
	ou have completed all s	ections, checke	ed all applicable	boxes, and that the f	form is
lease verify that yo omplete.	ou have completed all s	ections, checke	ed all applicable	boxes, and that the f	form is
	ou have completed all s	ections, checke	ed all applicable	boxes, and that the t	form is
omplete.					form is
omplete.	ou have completed all so Gilisa Gould			boxes, and that the f	form is
omplete.					form is
omplete. rveyor's Signature:			_Date of Survey:		form is

# Field Data Sheets for Recreational Use Stream Surveys Data Sheet C - Field Survey Results

																		Disso	lved Ox	ygen		
	Waterbo	ody ID:	382		ı	Site #:	3		ı							Date:	10/19/07	1		Time:	2:00pm	
	Estimated Channel Incision: 1.0 (m) (height between low bank width and water)										Di	ssolved	Oxygen:	6.8		(mg/L)						
		cation - l UTM X		UTM X) 0407493		-		izontal Ac	-					(matara)							(% sat)	
	11	UTM X		0407493		1	UTM Y:		4337792	2		+/-	2.1	(meters) (meters)		Di	ssolved					
	Average	Stream	Width:				7	(meters)	L	ength of	Survey S	Segment:		150	(meters)		Specifi	c Cond:			(µS/cm)	
			ngth of I							20x avera	ge strear	n width)				Wa	ter Temp	erature:	19.3		(°C)	
	Field Staff: Larissa Brown and Gilisa Gould																					
										Tra	nsect C	ross-Se	ction									
	0	01 02 03 04 05		)5	06 07			08	3	0	9	10		11								
Station	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.7	0.05	0.8	0.05	0.7	0.05	0.7	0.10	0.6	0.10	0.7	0.25	0.7	0.05	0.7	0.10	0.7	0.10	0.7	0.15	0.7	0.03
2	1.4	0.15	1.6	0.20	1.4	0.30	1.4	0.25	1.2	0.20	1.4	0.30	1.4	0.10	1.4	0.15	1.4	0.15	1.4	0.20	1.4	0.2
3	2.1	0.30	2.4	0.35	2.1	0.40	2.1	0.30	1.8	0.25	2.1	0.35	2.1	0.20	2.1	0.15	2.1	0.25	2.1	0.35	2.1	0.3
4	2.8	0.30	3.2	0.40	2.8	0.40	2.8	0.45	2.4	0.30	2.8	0.35	2.8	0.30	2.8	0.15	2.8	0.35	2.8	0.40	2.8	0.4
5	3.5	0.35	4.0	0.35	3.5	0.40	3.5	0.40	3.0	0.40	3.5	0.25	3.5	0.35	3.5	0.10	3.5	0.40	3.5	0.25	3.5	0.30
(	4.2	0.40				0.30							4.2	0.35	4.2	0.05	4.2	0.35	4.2			0.30
7	4.9						4.9		4.2				4.9			0.10	4.9		4.9			
<b>{</b>	5.6												5.6			0.10			5.6			0.0
Saht Dank	6.3	0.05	7.2 8.0	0.01	7.0	0.05	7.0	0.10	6.0	0.05	6.3 7.0	0.01	7.0	0.10	6.3 7.0	0.05	7.0	0.10	7.0	0.05	7.0	0.00
light Bank eature Type	/.0	0.00	8.0	0.00	7.0	0.00	7.0	0.00	0.0	0.00	7.0	0.00	7.0	0.00	7.0	0.00	7.0	0.00	7.0	0.00	7.0	0.00
iffle, run, or poo	ы ро	ool	pc	ool	po	ool	р	ool	ро	ool	рс	ool	р	ool	poo	ol	po	ol	po	ool	po	ol

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 11.09.07	
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WBID#	382
Site #	4

#### **Data Sheet B-Site Characterization**

				_						
Date & Time:		10.19.07	2:30pm	Site Location	on Descrip	tion (e.g. road	crossing):			
Personnel:		L. Brown and G. G	ould	off of Buist Rd						
Current Weat	her Con	ditions: clear		Facility Na	me:	Meadows WWTF				
Weather cond	litions fo	r the past 10 days:	3.19 inches	Permit Nun	nber:	MO0119822				
Drought cond	itions?: I	No drought ☑ ; Pha	ıse I □ ; Phase	ll □ ; Phas	e III □ ; Pl	nase IV 🗆 ; Ur	nknown 🗆			
Site Location	n:									
		(Universal Transve	rse Mercator P	rojection, In	Meters					
Site 01	Easting	ı (UTM X):	Northing (UTI	M Y):		Horizontal Ad	ccuracy:	Meters		
	040920	9	4336767					4.0		
Site 11	Easting	(UTM X):	Northing (UTI	М <u>Y</u> ):		Horizontal Ac	ccuracy:	Meters		
	040951	5	4336689					4.0		
Photos:	ı		т —	T		T	T			
Photo ID#	F	Photo Purpose	Photo ID#:	Photo F	Purpose	Photo ID#:	Photo Purp	ose		
129	downst	ream, T1	130	upstream,	T1	131	downstream, T11			
Photo ID#	F	Photo Purpose	Photo ID#	Photo F	Purpose	Photo ID#	Photo Purp	ose		
132	upstrea	ım, T11						_		
							, <b>_</b>			
Photo ID#	F	Photo Purpose	Photo ID#	Photo F	Purpose Photo ID#		Photo Purp	ose		
Uses Observ	ed:		<del>.</del>		1					
☐ Swimming	J	☐ Skin diving	☐ SCUBA d	iving	☐ Tubin	g	☐ Water Skiing			
☐ Wind surfi	ng	☐ Kayaking	☐ Boating		□ Wadir	ng	☐ Rafting			
☐ Hunting		☐ Trapping	☐ Fishing		✓ None	of the above	☐ Other:	☐ Other:		
Describe:										

WBID#	382
Site #	4

## **Data Sheet B- Site Characterization (Continued)**

		·	-		
Surrounding Condit	ions:				
☐ City/County parks	☐ playgrounds	☐ MDC conservation la	ands 🛮 Urban	areas 🛘	Rural Residential
☐ Campgrounds	☐ State parks	□ National Forests	☐ Nature	trails 🛚	Stairs/walkways
☐ Boating accesses	☐ Fence	✓ No tresspass sign	☐ Steep S	Slopes 🗆	Other:
Comments:	•		•		
none					
E 11					
Evidence of Human		T 5 1/1 (f	150	211	5
☐ Roads	☐ Foot path/prints		☐ Campir		Rope swings
☐ RV/ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing	Tackle   L	Livestock watering
comments/other:	none				
Substrate:					
% Cobble	% Gravel	% Sand %	Silt	% Mud/Clay	y % Bedrock
			30	70	
Aquatic Vegatation:					
	80% grasses in wat	ter channel			
W ( Ob 4 4'-					
Water Characteristic			21:!1	□ N	□ Oth
Odor:	☐ Sewage	,	Chemical	☑ Non	
Color:	☐ Clear		Gray	☑ Milk	<i>7</i>
Bottom Deposit:	☐ Sludge ☐ Oil		ine sediments oam	☑ Non	
Surface Deposit:			-Uaiii	MINOUR	e ⊔ Ouler.

WBID # 382 Site # 4

Organization: SES, Inc.

#### Field Data Sheets for Recreational Use Stream Surveys

## **Data Sheet B - Site Characterization (continued)**

Additional Stream I	Morphology:	(Record isolated pools of	r other features identified during	the survey that may	support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
	` '				
	1				
mments: (Please red	cord any additional comments	here.)			
ne		•			
	u have completed all s	ections, checke	d all applicable	boxes, and that the	form is
	u have completed all s	ections, checke	d all applicable	boxes, and that the	form is
ease verify that yo omplete. urveyor's Signature:		ections, checke	ed all applicable  Date of Survey:		form is

Position: Field Team Leader

# Field Data Sheets for Recreational Use Stream Surveys Data Sheet C - Field Survey Results

																		Disso	lved Ox	ygen		
	Waterbo	ody ID:	382		•	Site #:	4		•							Date:	10/19/07	7		Time:	2:30pm	
	Estimate	ed Chanr	nel Incisi	on:	1.0	(m) (hei	ght betw	een low b	ank wid	th and wa	ater)					'			7.3		(mg/L)	
		cation - l UTM X		UTM X) 0409209		-	Y), Hori UTM Y:	izontal Ac	curacy I 433676		•		OM) 4	(meters)				•			(% sat)	
		UTM X		0409515							•	+/-	4	(meters)	•						(μS/cm)	
	Average	Stream	Width:			10		(meters)	L	ength of	Survey S	Segment:		200	(meters)		Бресп	e cona.			(μο/οπ)	
	(To dete	ermne Le	ngth of F	Reach)					(2	20x avera	ge strear	n width)				Wa	ter Temp	erature:	18.6		(°C)	
	Fiel	d Staff:				Larissa	Brown aı	nd Gilisa (	Gould					-								
										Tra	nsect C	ross-Se	ction									
	01 02 03 04				(	05 06			07	0	08 09		9	10		11						
Station	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1.1	0.30	1.1	0.25	1.1	0.15	1.3	0.15	1.0	0.25	0.8	0.30	0.9	0.25	1.0	0.15	0.8	0.25	0.8	0.10	0.9	0.20
2	2.2	0.45	2.2	0.30	2.2	0.30	2.6	0.30	2.0	0.45	1.6	0.45	1.8	0.30	2.0	0.45	1.6	0.30	1.6	0.25	1.8	0.25
3	3.3	0.65	3.3	0.30	3.3	0.50	3.9	0.50	3.0	0.50	2.4	0.50	2.7	0.50	3.0	0.50	2.4	0.50	2.4	0.45	2.7	0.50
4	4.4	0.70	4.4	0.45	4.4	0.75	5.2	0.55	4.0	0.70	3.2	0.50	3.6	0.50	4.0	0.65	3.2	0.70	3.2	0.60	3.6	0.65
5	5.5	0.70	5.5	0.65	5.5	0.75	6.5	0.60	5.0	0.60	4.0	0.50	4.5	0.45	5.0	0.70	4.0	0.60	4.0	0.60	4.5	0.60
6	6.6	0.55	6.6	0.45	6.6	0.45	7.8	0.60	6.0	0.30	4.8	0.45	5.4	0.30	6.0	0.65	4.8	0.45	4.8	0.40	5.4	0.50
7	7.7	0.40	7.7	0.20	7.7	0.30	9.1	0.60	7.0	0.25	5.6	0.25	6.3	0.20	7.0	0.60	5.6	0.30	5.6	0.25	6.3	0.40
8	8.8	0.30	8.8	0.20	8.8	0.15	10.4	0.35	8.0	0.25	6.4	0.20	7.2	0.20	8.0	0.50	6.4	0.20	6.4	0.25	7.2	0.35
9	9.9	0.20	9.9	0.15	9.9	0.15	11.7	0.10	9.0	0.20	7.2	0.20	8.1	0.15	9.0	0.45	7.2	0.20	7.2	0.25	8.1	0.20
ight Bank	11.0	0.00	11.0	0.00	11.0	0.00	13.0	0.00	10.0	0.00	8.0	0.00	9.0	0.00	10.0	0.00	8.0	0.00	8.0	0.00	9.0	0.00
eature Type		,		,				,								,		,				1
iffle, run, or pool	pc	ool	pc	ool	pc	ool	po	pool		pool		ool	p	ool	po	pool pool		ool	pool po		ol	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

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Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 11.09.07	
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Site# 1 Photo ID# 1, Downstream



Site# 1 Photo ID# 119, Downstream



Site# 1 Photo ID# 2, Upstream



Site# 1 Photo ID# 120, Upstream



Site# 2 Photo ID# 121, Downstream T1



Site# 2 Photo ID# 123, Downstream T11



Site# 2 Photo ID# 122, Upstream T1



Site# 2 Photo ID# 124, Upstream T11



Site# 3 Photo ID# 125, Downstream T1



Site# 3 Photo ID# 127, Downstream T1



Site# 3 Photo ID# 126, Upstream T1



Site# 3 Photo ID# 128, Upstream T1



Site# 4 Photo ID# 129, Downstream T1



Site# 4 Photo ID# 131, Downstream T11



Site# 4 Photo ID# 130, Upstream T1



Site# 4 Photo ID# 132, Upstream T11